

REMARKS

Entry of the foregoing, re-examination and reconsideration of the subject application is respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action summary, claims 1 and 3-26 were pending. By the present response, claims 1, 5, 6 and 10-12 are amended , and claims 27-29 are added. Claims 14-19 and 22-26 have been withdrawn from further consideration as being directed to a non elected invention. Thus, upon entry of the present response, claims 1, 3-13, 20, 21 and 27-29 are pending and await further consideration on the merits.

DRAWING OBJECTIONS.

The drawings stand objected to on the grounds set forth in paragraph 4 through 5 of the Official Action. In particular, an objection is made in paragraph 4 with regard to the use of foreign language and all of the drawings. However, Applicants note that a certified translation of the entire application, including the drawing figures, was filed with the U.S. Patent and Trademark Office with response to missing parts on October 26, 2001. Thus, it is respectfully requested that the translated drawing figures be utilized by the Examiner, just as the translated specification papers have been utilized.

A further objection to the drawings is based on the assertion that it is unclear with respect to which parts of the drawings elements "A" and "F" represent. By the present response, Applicants submit herewith a Request for Approval of Drawing Changes which

add lead lines, to Figures 1-4, thereby clarifying which elements are being referred to as features "A" and "F". Thus, review and approval of the Request of Approval of Drawing Corrections, and withdrawal of the objections are respectfully requested.

OBJECTION TO THE SPECIFICATION

The specification stands objected on the grounds set forth in paragraphs 6 through 7 of the Official Action. By the present response, Applicants have amended the specification in a manner which is believed to address the above-noted grounds for objection. Thus, reconsideration and withdrawal of the objection is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 1, 3-13 and 20-21 stand rejected under 35 U.S.C. §112, second paragraph on the grounds set forth in paragraph 9 of the Official Action. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 1 stands rejected on the grounds that "it is unclear as to how the separator is related to other elements of the system." This rejection is respectfully traversed. While the exact location of the particle separator, relative to the oxidation catalyst and NO_x adsorption catalyst is not defined in claim 1, this does not mean that 35 U.S.C. §112, second paragraph has been violated. In this regard, certain dependent claims do in fact specify the location of the particle separator, thereby representing claims of a somewhat narrower scope in claim 1, at least in this regard.

The grounds for rejection are improper in that they are clearly contrary to the guidance provided by MPEP §2173.04. Specifically, the grounds for rejection are clearly based on an improper attempt to equate the breadth of the claim, with indefiniteness. Thus, reconsideration and withdrawal of the rejection is respectfully requested.

With regard to the grounds for rejection of claims 5, 6, 11 and 12, Applicants have amended the claims in a manner which is believed to address each of the above-noted grounds for rejection. Therefore, reconsideration and withdrawal of these rejections is respectfully requested.

CLAIM REJECTION UNDER 35 U.S.C. §102

Claims 1, 5 and 8-9 stand rejected under 35 U.S.C. §102(b) as being anticipated by International Patent Publication WO 00/21647 (hereafter "WO '647") on the grounds set forth in paragraph 11 of the Official Action. This rejection is respectfully traversed.

The present invention is directed to a system for the effective removal of particles and NO_x integrated into an existing engine system, and providing high conversion levels of nitrogen oxides and particulates.

The system of the present invention unifies an oxidation catalyst, particle separator, and NO_x adsorbent catalyst in an order or arrangement such that conditions are favorable for the collection of absorption of particles and nitrogen oxides, wherein soot is periodically burned, and the absorbed nitrogen oxide is reduced under suitable conditions prevailing under normal driving conditions or under conditions which are selective

induced. Hydrocarbon and carbon monoxide are effectively oxidized in the oxidation catalyst, and NO_x emissions are rendered extremely low.

A system arranged according to the principles of the present invention is set forth in amended claim 1:

1. A system for purifying a flow of exhaust gases of diesel or gasoline multicylinder engines containing, on average, an excess of oxygen, the system comprising operational units including:
 - a single oxidation catalyst, a particle separator;
 - and an NO_x adsorption catalyst, the NO_x adsorption catalyst located upstream or at the same location as the sole oxidation catalyst, with respect to the flow of exhaust gases, whereby the system reduces the amounts of hydrocarbons, carbon monoxide, nitrogen oxides and particles present in the exhaust gas.

WO '647 clearly fails to anticipate the system defined by claim 1 above.

WO '647 discloses a process and apparatus for treating combustion exhaust gas. However, *WO '647* only teaches arrangements and methods which include an oxidation catalyst is always located upstream from the NO_x adsorption catalyst. Thus, the arrangements and methods taught by *WO '647* fail to anticipate the system of claim 1, which require the sole oxidation catalyst to be located downstream, or at the same location as the oxidation catalyst.

As illustrated, for example, in Figure 1 of *WO '647*, the arrangement described therein includes an oxidation catalyst (14), which is clearly upstream from both a particle separator (16), as well as a NO_x absorber (28).

Thus, for at least the reasons explained above, *WO '647* clearly fails to anticipate claim 1.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 3-4 stand rejected under 35 U.S.C. §103(a) as being obvious over *WO '647* on the grounds set forth in paragraph 14 of the Official Action. This rejection is respectfully traversed.

As explained above, *WO '647* fails to teach a system in which the sole oxidation catalyst present therein is located downstream, or at the same location, relative to the location of the NO_x adsorption catalyst. In this regard, *WO '647* teaches only systems and arrangements which include an oxidation catalyst which is always located upstream relative to a NO_x absorbent. Thus, not only does *WO '647* fail to disclose, or even suggest, the subject matter of the presently claimed invention, it in fact suggests the opposite.

With regard to claims 3 and 4, it is alleged, without any support, that:

. . . positioning the parts of the apparatus is no more than a design choice, and well within the knowledge of one skilled in the art so as to achieve the purification attendant therewith
absence [sic: absent] showing any unexpected results and
since it has been held that rearranging parts of an invention
involves only routine skill in the art. *In re Japiske*, 86 USPQ
70

The grounds for rejection are deficient in several respects.

First, the grounds for rejection fail to offer any explanation as to why one of ordinary skill in the art would have considered the proposed modification obvious, apart from the unsupported assertion that location of the parts would have been an obvious matter of design choice. Therefore the grounds of rejection fails to contain the elements necessary to establish a *prima facie* case of obviousness. See, e.g. - M.P.E.P §706.02(j).

The Federal Circuit has held that, under similar facts, that reliance upon as unsupported allegation of "design choice" is insufficient to establish a *prima facie* case of obviousness. In re Chu, 36 USPQ2d 1089 (Fed. Cir. 1995)."

Further, the grounds for rejection clearly rest upon an assertion that the proposed modification of the teachings of *WO '647* are "well within the knowledge" of one skilled in the art.

However, the Board of Appeals has clearly rejected such reasoning:

That which is within the capabilities of one skilled in the art is not synonymous with obviousness. . . That one can reconstruct and/or explain the theoretical mechanism of an invention by means of logic and sound scientific reasoning does not afford the basis for an obviousness conclusion unless that logic and reasoning also supplies sufficient impetus to have led one of ordinary skill in the art to combine the teachings of the references to make the claimed invention. Ex parte Levengood, 28 USPQ2d 1300, 1301-02 (B.P.A.I. 1993).

Thus, it is respectfully submitted that the conclusory assertions with regard to the obviousness of various aspects of the presently claimed invention, which are admittedly not

contained within the teachings of the prior art references, does not constitute a sufficient basis for making out a prima facie case of obviousness.

For at least the reasons noted above, the rejection is improper and should be withdrawn.

Claims 6-7, 10, 13 and 21 stand rejected under 35 U.S.C. §103(a) as being obvious over WO '647 in view of U.S. Patent No. 4,887,427 to Shinzawa et al. ("hereinafter "*Shinzawa et al.*"), or DE3518756 (hereafter "*DE '756*") on the grounds set forth in paragraph of the Official Action. This rejection is respectfully traversed.

Shinzawa et al. and *DE '756* are cited as allegedly teaching provision of each exhaust discharge line of each cylinder of an engine as having a catalyst filter. However, even if *Shinzawa et al.* and *DE '756* were added in the manner proposed, the claimed invention would not result. Namely, neither WO '647, *Shinzawa et al.*, or *DE '756*, taken alone or in combination, disclose, or even suggest, the system as defined by amended claim 1 above. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 11-12 and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over WO '647 in view of *Shinzawa et al.*, *DE '756*, as applied previously, and further in view of EP0758713 (hereafter "*EP '713*") on the grounds set forth in paragraph 16 of the Official Action. This rejection is respectfully traversed.

The teachings of *EP '713* are added because of the allegedly suggest regeneration of the NO_x adsorption catalyst. However, even if *EP '713* were added to the above-noted combination in the manner proposed, the claimed invention would not result. Namely,

neither *WO '647, Shinzawa et al., DE '756, or EP '713*, taken alone or in combination, disclose or even suggest the subject matter of the presently claimed invention, as specified in amended claim 1 above. Reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is requested that the undersigned be contacted so that any such issues may adequately addressed in prosecution of the instant application expedited.

Respectfully submitted,

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Date: July 3, 2003

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